Watercare Network Grading Zones Water Quality Report

July 2017 – June 2018

Watercare
An Auckland Council Organisation

This report shows compliance with the Drinking Water Standards for New Zealand 2005 (Revised 2008) (DWSNZ) within Watercare's Network Grading Zones. The Guideline Values (GVs) and Maximum Acceptable Values (MAVs) for the determinands are summarised below. The MAV is the concentration of a microbial or chemical constituent below which the presence of the determinand does not result in any significant risk to the health of the consumer over a lifetime consumption of that water. GVs are for parameters which have no effect on human health but can contribute to aesthetic complaints if they are exceeded.

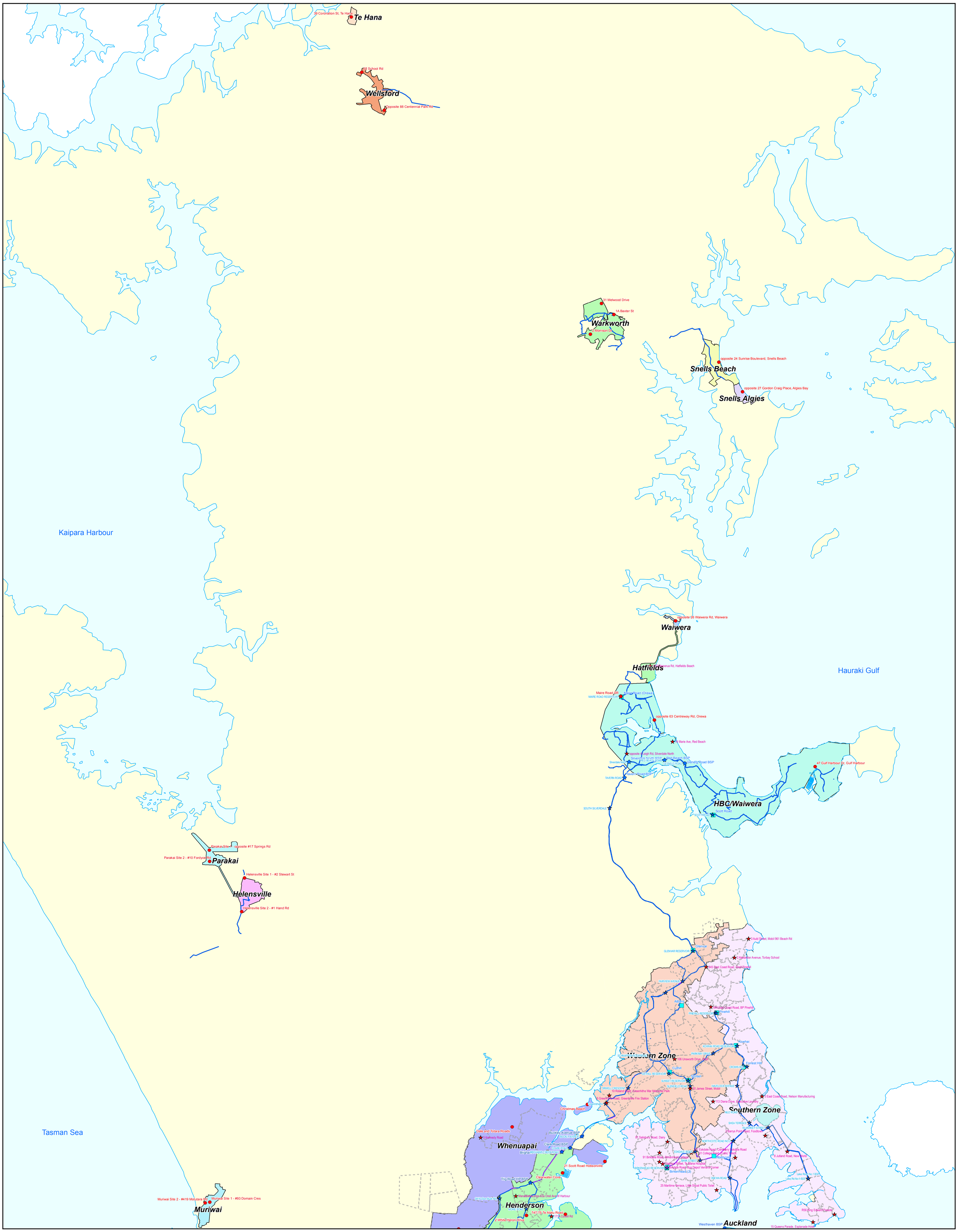
Drinking Water Standards for New Zealand 2005 (Revised 2008) MAVs and GVs

Determinand	**GV**	**MAV**	**Unit**
Chlorine Residual	0.6 - 1	5	mg/L
pH	7 - 8.5		pH unit
Turbidity	2.5	5	NTU
E. coli		<1.0/100mL	MPN/100mL

Where the Guideline Values were exceeded, flushing was carried out at the sampling point along with additional sampling to confirm that the water supply was compliant. Reports were submitted to the Auckland Regional Public Health Service (ARPHS).

WATERCARE SERVICES LIMITED

Water Sample Points in North



Legend

- Transmission BSP with Tap
- Network Sample Tap
- Reservior
- Transmission BSP without Tap
- Network Sample Tap (Non-Routine)
- Pressure Zone
- Treated Watermain
- Raw Watermain
- Tunnelled Watermain
- Proposed Watermain
- OOS Watermain

N

0 1.25 2.5 5 7.5

Kilometres

GIS Mapping

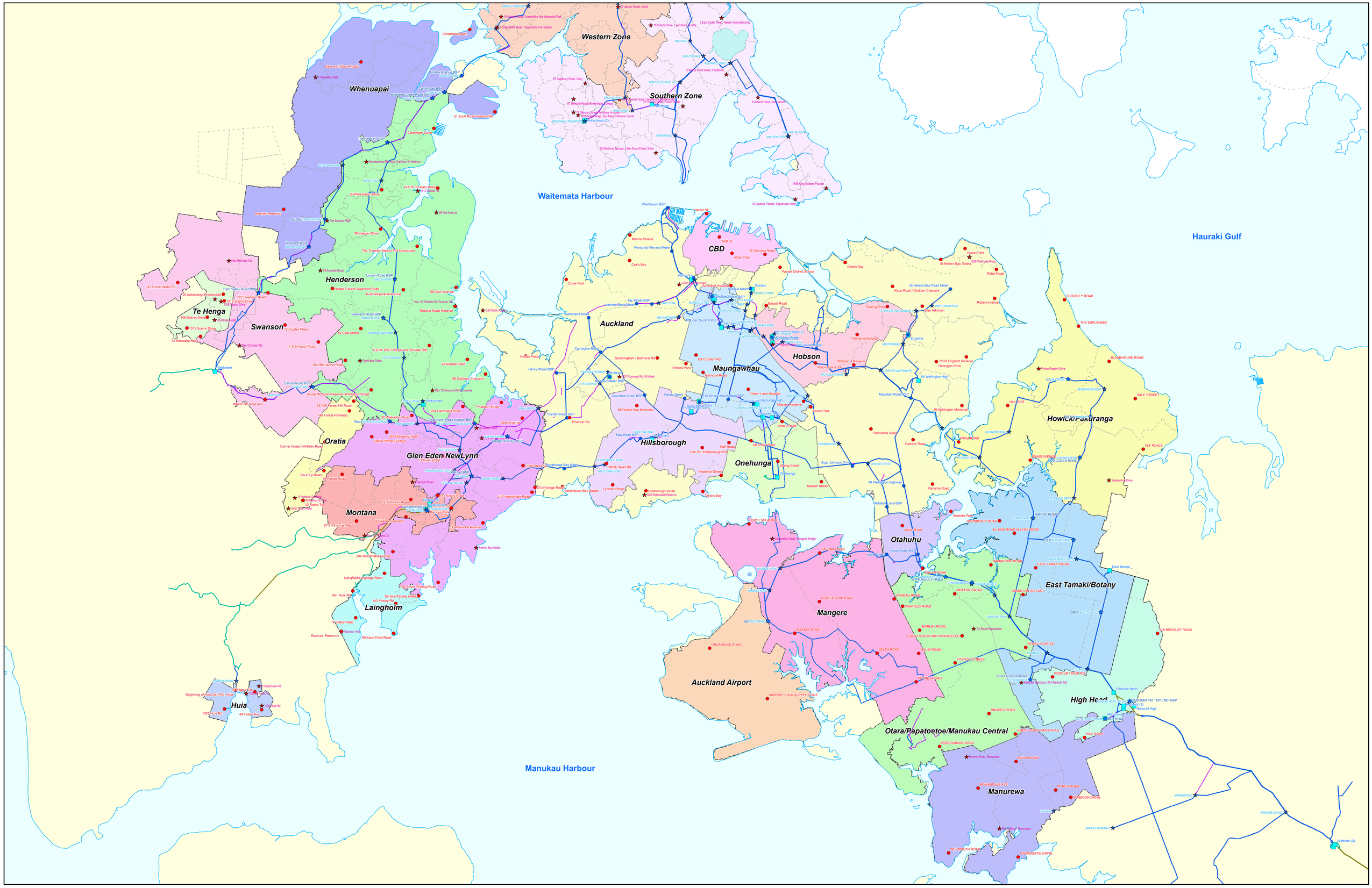
Watercare services limited

SCALE	1:62,000 @ A0
DATE	2 September 2011
GIS REF	PR11101_TF
MAP NO	PR11101_02

DISCLAIMER

This plan is illustrative only and all information should be independently verified on site before taking any action. Land Parcel Boundary Information from LINZ. Whilst due care has been taken, Watercare Services Limited gives no warranty as to the accuracy and completeness of any information on this plan and accepts no liability for any error, omission or use of the information.

Height datum: Auckland 1946.



Legend

- Transmission BSP with Tap
- Transmission BSP without Tap
- Treated Watermain
- Proposed Watermain
- Network Sample Tap
- Network Sample Tap (Non-Routine)
- Raw Watermain
- OOS Watermain
- Reservior
- Pressure Zone
- Tunnelled Watermain

WATERCARE SERVICES LIMITED

Water Sample Points in Central

N

0 0.5 1 2 3

Kilometres

Mapping
Watercare Services Limited

SCALE	1:43,000 @ A0
DATE	2 September 2011
GIS REF	PR11101_TF
MAP NO	PR11101_01

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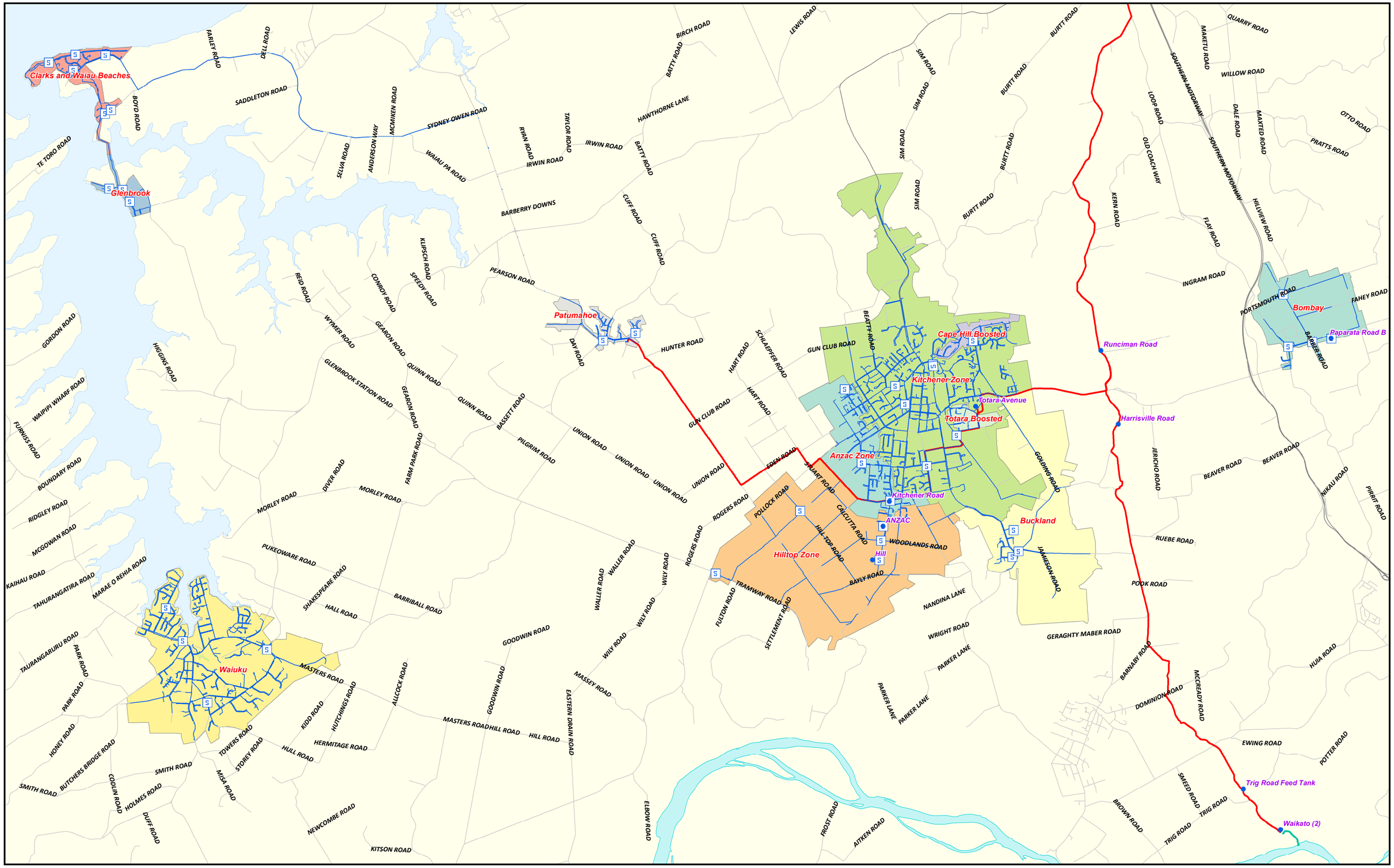
Height datum: Auckland 1946.



LEGEND

- Reservoir
- Sampling Tap

Local Watermain
- Main/Service
- Out of Service

Transmission Watermain
- Treated
- Raw

WATERCARE SERVICES LTD

Water Sample Points In South

N

0 420 840 1680 2520

Meters

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DISCLAIMER
Watercare accepts no responsibility for the accuracy of these service records. If requested by Watercare the exact position of services must be verified by carrying out a site investigation prior to commencement of any works.

SCALE: 1:53,000 @A2

DATE: 12 May 2015

CREATED BY: ASAWANT

MODIFIED BY: ASAWANT

MAP NO: PR11101_03A

Network Grading Zones Water Quality Compliance Summaries for 1 July 2017 - 30 June 2018

Anzac Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.46	7.50
Median	0.20	0.00	0.87	7.80
Average	0.24	0.00	0.84	7.84
Maximum	1.70	0.00	1.09	8.30
Count of Results	101	101	101	101

Auckland Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.08	7.40
Median	0.15	0.00	0.88	7.90
Average	0.19	0.00	0.85	7.95
Maximum	3.40	0.00	1.64	9.20
Count of Results	742	742	742	742

Auckland Airport Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.52	7.60
Median	0.15	0.00	0.91	8.00
Average	0.19	0.00	0.89	8.02
Maximum	2.90	0.00	1.16	8.50
Count of Results	111	110	111	111

Bombay Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.49	7.20
Median	0.10	0.00	0.76	7.80
Average	0.11	0.00	0.75	7.80
Maximum	0.25	0.00	1.04	8.20
Count of Results	85	85	85	85

Buckland Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.57	7.50
Median	0.20	0.00	0.88	7.80
Average	0.23	0.00	0.87	7.86
Maximum	0.75	0.00	1.06	8.30
Count of Results	85	85	85	85

Central Business District Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.14	7.70
Median	0.15	0.00	0.74	8.00
Average	0.18	0.00	0.73	8.12
Maximum	0.50	0.00	1.06	9.30
Count of Results	170	170	170	170

Clarks / Waiau Beach Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.19	7.60
Median	0.20	0.00	0.75	7.90
Average	0.22	0.00	0.71	7.93
Maximum	0.65	0.00	1.10	8.30
Count of Results	86	86	86	86

East Tamaki / Botany Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.39	7.60
Median	0.15	0.00	0.97	7.80
Average	0.17	0.00	0.97	7.85
Maximum	0.50	0.00	1.23	8.20
Count of Results	173	173	173	173

Glenbrook Beach Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.23	7.50
Median	0.25	0.00	0.69	7.90
Average	0.23	0.00	0.69	7.90
Maximum	0.65	0.00	1.01	8.20
Count of Results	85	85	85	85

Glen Eden / New Lynn Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.32	7.50
Median	0.15	0.00	0.89	7.80
Average	0.20	0.00	0.88	7.81
Maximum	1.70	0.00	1.76	8.30
Count of Results	235	235	235	235

Hibiscus Coast / Waiwera Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.20	7.80
Median	0.15	0.00	0.83	8.40
Average	0.19	0.00	0.76	8.51
Maximum	0.70	0.00	1.34	9.40
Count of Results	163	163	163	163

Helensville / Parakai Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.22	7.20
Median	0.10	0.00	0.74	7.40
Average	0.14	0.00	0.74	7.39
Maximum	0.70	0.00	1.14	7.90
Count of Results	101	101	101	101

Henderson Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.23	7.50
Median	0.15	0.00	0.92	7.80
Average	0.18	0.00	0.91	7.88
Maximum	1.20	0.00	1.53	8.70
Count of Results	381	381	381	381

High Head Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.20	7.60
Median	0.15	0.00	0.84	7.80
Average	0.17	0.00	0.80	7.85
Maximum	0.40	0.00	1.17	8.40
Count of Results	112	112	112	112

Hillsborough Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.40	7.60
Median	0.15	0.00	0.93	7.90
Average	0.19	0.00	0.91	7.91
Maximum	0.50	0.00	1.27	8.50
Count of Results	247	247	247	247

Hilltop Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.02	7.60
Median	0.20	0.00	0.43	7.80
Average	0.23	0.00	0.44	7.87
Maximum	1.30	0.00	0.86	8.20
Count of Results	98	98	98	98

Howick / Pakuranga Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.29	7.60
Median	0.15	0.00	0.82	7.90
Average	0.17	0.00	0.80	8.00
Maximum	2.00	0.00	1.54	8.60
Count of Results	368	368	368	368

Huia Village Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.05	7.60
Median	0.15	0.00	0.76	8.00
Average	0.18	0.00	0.74	8.08
Maximum	2.90	0.00	1.20	8.70
Count of Results	101	101	101	101

Kitchener Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.51	7.50
Median	0.25	0.00	0.85	7.80
Average	0.25	0.00	0.83	7.87
Maximum	1.20	0.00	1.09	8.30
Count of Results	146	146	146	146

Laingholm Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.26	7.50
Median	0.15	0.00	0.75	8.25
Average	0.26	0.00	0.73	8.22
Maximum	8.20 *	0.00	1.27	8.90
Count of Results	118	118	118	118

* The turbidity of 8.20 NTU was reported to the Auckland Regional Public Health Service. Investigations confirmed this was not representative of the water in supply, and compliance with the Drinking Water Standards for New Zealand (DWSNZ) was maintained.

Mangere Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.56	7.60
Median	0.15	0.00	0.96	7.90
Average	0.20	0.00	0.95	7.87
Maximum	3.70	0.00	1.20	8.40
Count of Results	250	250	250	250

Manurewa Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.49	7.60
Median	0.15	0.00	0.92	8.00
Average	0.18	0.00	0.91	8.00
Maximum	0.55	0.00	1.39	8.50
Count of Results	247	247	247	247

Maungawhau Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.21	7.60
Median	0.15	0.00	0.74	7.90
Average	0.20	0.00	0.74	7.90
Maximum	4.50	0.00	1.63	8.40
Count of Results	198	198	197	198

Montana Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.23	7.50
Median	0.15	0.00	0.82	7.80
Average	0.22	0.00	0.78	7.88
Maximum	2.10	0.00	1.36	8.50
Count of Results	100	100	100	100

Mt Hobson Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.23	7.60
Median	0.15	0.00	0.63	8.00
Average	0.17	0.00	0.60	8.03
Maximum	0.55	0.00	0.90	8.50
Count of Results	149	149	149	149

Muriwai Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.51	7.20
Median	0.10	0.00	0.93	7.40
Average	0.17	0.00	0.91	7.40
Maximum	0.85	0.00	1.20	7.60
Count of Results	88	88	88	88

North Shore South Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.25	7.30
Median	0.15	0.00	0.76	8.00
Average	0.18	0.00	0.73	7.98
Maximum	0.95	0.00	1.36	8.50
Count of Results	425	425	425	425

North Shore West Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.28	7.50
Median	0.15	0.00	0.89	8.00
Average	0.19	0.00	0.90	7.99
Maximum	3.40	0.00	1.55	9.00
Count of Results	407	407	407	407

Onehunga Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.39	7.40
Median	0.10	0.00	0.85	7.80
Average	0.11	0.03	0.86	7.81
Maximum	0.40	4.20 *	1.30	8.20
Count of Results	154	154	154	154

* The E.coli result of 4.2 MPN/100mL was reported to the Auckland Regional Public Health Service. Investigations confirmed this result was due to environmental contamination of the sample and was not representative of the water in supply. Compliance with the DWSNZ was maintained.

Oratia Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.23	7.50
Median	0.15	0.00	0.72	8.40
Average	0.21	0.00	0.68	8.42
Maximum	1.70	0.00	1.11	9.10
Count of Results	115	115	115	115

Otahuhu Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.53	7.70
Median	0.15	0.00	0.93	7.90
Average	0.26	0.00	0.94	7.93
Maximum	7.90 *	0.00	1.61	8.50
Count of Results	113	113	113	113

* The turbidity of 7.90 NTU was reported to the Auckland Regional Public Health Service. Investigations confirmed this was not representative of the water in supply, and compliance with the DWSNZ was maintained.

Otara / Papatoetoe / Manukau Central Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.40	7.60
Median	0.15	0.00	0.97	7.80
Average	0.18	0.00	0.96	7.86
Maximum	0.50	0.00	1.22	8.50
Count of Results	222	222	222	222

Patumahoe Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.45	7.50
Median	0.20	0.00	0.75	7.80
Average	0.21	0.00	0.77	7.87
Maximum	0.45	0.00	1.87	8.30
Count of Results	75	75	75	75

Snells / Algies Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.72	8.20
Median	0.10	0.00	1.07	8.40
Average	0.12	0.00	1.07	8.38
Maximum	2.10	0.00	1.68	8.60
Count of Results	101	101	101	101

Swanson Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.26	7.60
Median	0.15	0.00	0.82	8.05
Average	0.22	0.00	0.79	8.03
Maximum	1.30	0.00	1.41	8.70
Count of Results	124	124	124	124

Te Henga Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.25	7.70
Median	0.20	0.00	0.66	8.10
Average	0.23	0.00	0.65	8.15
Maximum	3.70	0.00	1.13	9.00
Count of Results	113	113	113	113

Waiuku Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.00	0.00	0.43	7.70
Median	0.10	0.00	0.78	8.00
Average	0.11	0.00	0.80	7.98
Maximum	0.30	0.00	1.23	8.20
Count of Results	113	113	113	113

Warkworth Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.30	7.00
Median	0.15	0.00	0.91	7.40
Average	0.20	0.00	0.86	7.43
Maximum	3.50	0.00	1.35	8.30
Count of Results	88	88	88	88

Wellsford Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.10	0.00	0.38	7.20
Median	0.15	0.00	0.82	7.40
Average	0.17	0.00	0.80	7.41
Maximum	1.10	0.00	1.30	7.90
Count of Results	109	109	109	109

Whenuapai Grading Zone Summary

	Turbidity	Escherichia coli	Chlorine Residual	pH
	NTU	MPN/100 mL	mg/L	pH unit
Minimum	0.05	0.00	0.20	7.50
Median	0.15	0.00	0.80	8.00
Average	0.22	0.00	0.79	8.07
Maximum	4.80	0.00	1.63	8.80
Count of Results	147	147	147	147